

SYSTEM AND METHOD FOR GENERATING BUS REQUESTS IN
ADVANCE BASED ON SPECULATION STATES

Abstract of the Disclosure

A system and method predict when to generate a bus request ahead-of-time based on bus-activity, bus-usage efficiency and bus-bandwidth usage. A bus-usage efficiency indicator may be generated by a requestor, such as a memory controller, based on a number of unused bus cycles that were granted to the requestor during a prior observation window. The bus-bandwidth usage indicator may be generated by the requestor based on a number of bus transactions effectively utilized by the requestor during the prior observation window. The bus-activity indicator may be received from a bus arbiter to indicate system bus activity during a prior system-bus observation window. When the bus-activity indicator indicates that the system bus is busy, a requestor may transition between a full-speculation state, a delayed speculation state and a no-speculation state based on bus-usage efficiency and bandwidth usage. When the system bus is idle, a requestor may remain in the full-speculation state.

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